

CLAIMS

1. A conductive polymeric nanocomposite material having vapor grown carbon nanofibers incorporated therein, said nanocomposite material formed by providing vapor grown carbon nanofibers, combining said nanofibers with a solvent to form a solution mixture, adding a polymer to said solution mixture to form a substantially homogeneous solution mixture, and removing said solvent from said substantially homogeneous solution mixture.
2. The conductive polymeric nanocomposite material of claim 1 wherein said vapor grown carbon nanofibers are selected from the group consisting of as-grown fibers, pyrolytically stripped fibers, and heat treated fibers.
3. The conductive polymeric nanocomposite material of claim 1 comprising a film.
4. A conductive polymeric nanocomposite material incorporating vapor grown carbon nanofibers therein formed by providing vapor grown nanofibers; providing a polymer; combining said nanofibers and said polymer with a solvent to form a substantially homogeneous mixture; and removing said solvent from said mixture.
5. A conductive polymeric nanocomposite material having heat-treated vapor grown carbon nanofibers incorporated therein, said nanocomposite material having an electrical conductivity in the range of about 10^{-6} to greater than 20 S/cm.
6. A conductive polymeric nanocomposite material having vapor grown carbon nanofibers incorporated therein, said nanocomposite material having an electronic conducting percolation threshold of less than 1% by volume of said carbon nanofibers.